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EXAMINER

MALLARI, PATRICIA C

ART UNIT	PAPER NUMBER
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3736

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/813,225

Applicant(s)

ORR ET AL.

Examiner

Patricia C. Mallari

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 June 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-120 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 100-109 is/are allowed.
- 6) ☒ Claim(s) 34-45, 47, 52-60, 63, 64, 70-77, 79, 84, 88-94, 110 and 112-115 is/are rejected.
- 7) ☒ Claim(s) 46, 48-51, 61, 62, 65-69, 78, 80-83, 85-87, 95-99, 111, and 116-120 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Objections

Claim 71 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 71 merely restates the last line of claim 70, upon which claim 71 depends, and therefore fails to further limit the parent claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 34, 35, 37-42, 44, 45, 47, 70-74, 76, 77, and 79 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,106,480 to Gama De Abreu et al. Gama De Abreu teaches a method of determining cardiac output or pulmonary capillary blood flow (col. 2, lines 21-23; col. 4, line 54-col. 5, line 5) comprising a step of evaluating respiration of a patient during a first ventilation state having a duration between 18 and 60 seconds and evaluating respiration of the patient during a second ventilation state having a duration between 18 and 60 seconds (col. 2, lines 40-57).

Regarding claims 35, 75, figures 3 and 4 show the change between the first ventilation state and the second ventilation state as being immediate.

Regarding claims 37 and 38, the step of evaluating respiration of the patient during the first ventilation state and/or the second ventilation state is effected for about 30 seconds (col. 2, lines 40-54), wherein the ventilation state disclosed by Gama de Abreu et al. on col. 2, lines 52-54 could be either the first or the second ventilation state as stated by the instant claim. Also, as to the state disclosed in col. 2, lines 40-45 of Gama de Abreu et al., 60 seconds is considered to be "about 30 seconds", particularly, for example, in comparison to a time period such as a day.

Regarding claims 39 and 40, the step of evaluating respiration of the patient during the first ventilation state or during the second ventilation state is effected for a duration of at least about 30% of a combined duration of evaluating respiration of the patient during both the first and second ventilation states (col. 2, lines 40-54; fig. 4), wherein a period of approximately 30 seconds or a period of approximately 60 seconds is at least about 30% of a duration of approximately 60 seconds combined with approximately 30 seconds). Also the ventilation state disclosed by Gama de Abreu et al. on col. 2, lines 52-54 could be either the first or the second ventilation state as stated by the instant claim.

Regarding claim 41, the step of evaluating respiration during the first ventilation state and the step of evaluating respiration during the second ventilation state are effected for a combined duration of at most about two minutes (fig. 4; col. 2, lines 40-54).

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Regarding claim 42, the step of evaluating respiration of the patient during the first ventilation state comprises evaluating respiration during rebreathing (col. 2, lines 52-54).

Regarding claim 44, the step of evaluating respiration of the patient during the second ventilation state comprises evaluating respiration of the patient while the patient is breathing air (col. 2, lines 40-51).

Regarding claim 45, the step of evaluating respiration of the patient during the second ventilation state comprises evaluating respiration of the patient while the patient is breathing gas or a gas mixture comprising at least a concentration of oxygen present in air (col. 2, lines 40-50), wherein air contains at least a concentration of oxygen.

Regarding claim 47, the step of evaluating respiration of the patient during the second ventilation state is effected before calculating the pulmonary capillary blood flow of the patient (col. 4, lines 54-col. 5, line 7).

Regarding claims 70-74, 76, 77, and 79 it is assumed that Gama de Abreu et al., because the reference discloses a first phase in which a change in effective ventilation is induced (col. 2, lines 43-57) and a second phase during which a change in the ventilation is not present (col. 2, lines 40-43), discloses a differential Fick technique as claimed. Furthermore, if the inclusion of the claimed steps alone does not constitute a Fick technique as claimed by the present application, then the claim fails to include matter critical or essential to the practice of the invention (i.e. a problem under 35 U.S.C. 112, 1st paragraph). Also, the specification of the instant application states "The first and second phases, or ventilation states, of the inventive differential Fick technique

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may be effected for substantially the same amount of time, meaning that . . . one of the phases may alternatively be somewhat longer than the other.” The specification further gives the example that either the first or second phase of may comprise as little as about 30% or as much as 70% of the combined duration of the first and second phases (p.12, paragraph 0048 of the instant specification). In view of the applicants’ description of effecting the first and second ventilation states for substantially the same amount of time, the periods described in Gama de Abreu et al. qualify as being substantially the same.

With further regard to claims 72 and 91, the first and second phases each have a duration of about 30 seconds (col. 2, lines 40-57; fig. 4). As to the state disclosed in col. 2, lines 40-45 of Gama de Abreu et al., 60 seconds is considered to be “about 30 seconds”, particularly, for example, in comparison to a time period such as a day.

With further regard to claims 73, 74, 89, and 90 a duration of the first phase is at least about 30% of a combined duration of the first and second phases (col. 2, lines 40-54; fig. 4), wherein a period of approximately 30 seconds is or a period of approximately 60 seconds is at least about 30% of a duration of approximately 60 seconds combined with approximately 30 seconds.

With further regard to claims 76 and 92, the combined duration of the first and second phases is at most about two minutes (col. 2, lines 40-54; fig. 2).

With further regard to claims 77 and 93, the first phase comprises a rebreathing phase (col. 2, lines 52-54) and the second phase comprises a nonrebreathing phase (col. 2, lines 40-43).

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With further regard to claim 79, the second phase occurs before the first phase (col. 2, lines 40-48).

With further regard to claims 84, 88-92 and 94, the length of each of the first and second duration of time is between about 18 and 60 seconds (fig. 4; col. 2, lines 40-57). Measurements of at least one respiratory gas and of respiratory flow are obtained during both durations of time (col. 2, lines 25-33). With further regard to claim 93, the step of inducing comprises causing an individual to rebreathe (col. 2, lines 52-54). With further regard to claim 94, the step of obtaining measurements comprises obtaining measurements of carbon dioxide (col. 2, line 27).

Claims 34-42, 44, 45, 47, 70-74, 76, 77, and 79 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent No. 6,200,271 to Kück et al. The applied reference Kück has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Kück discloses a method for noninvasively estimating at least one of a pulmonary capillary blood flow and a cardiac output of a patient comprising a step of evaluating respiration of the patient during a first ventilation state having a duration of about 18 to about 60 seconds, and a step of evaluating respiration of the patient during a second ventilation state having a duration of about 18 to about 60 seconds (col. 9, lines 24-52;

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figs. 4 and 5). The length of the duration of the "before" ventilation state is disclosed, for example, as being 6 seconds (Col. 9, lines 40-43), wherein 6 seconds is considered to be about 18 seconds, particularly in reference to a time period, such as a day.

Regarding claim 35, the step of evaluating respiration of the patient during the first ventilation state is conducted immediately before evaluating respiration of the patient during the second ventilation state (figs. 4-5).

Regarding claim 36, the step of evaluating the patient during another first ventilation state is repeated immediately following the evaluation of respiration during the second ventilation state (col. 9, lines 52-60; figs. 4-5).

Regarding claims 37, 38, and 72, the evaluation of either of the first or second ventilation states is effected for about 30 seconds as shown in the graphs of figures 4 and 5. Note that time duration in this case, and in claims 39-41, 70, 71, 73, 74, 76, 77, and 79, the time duration cited refers to the time during which the patient's respiration is evaluated, rather than the duration of the ventilation state itself, as in claim 34.

Regarding claims 39, 40, 73, and 74, the evaluation of the patient's respiration during either of the first and second ventilation states is effected for a duration of at least about 30% of a combine duration of evaluating respiration of the patient during both the first and the second ventilation states, wherein figures 4 and 5 show that evaluation of respiration during the "before" state occurs for roughly 50 seconds, evaluation of the respiration during the "during" state occurs for roughly 60 seconds. In either case, the duration of the evaluation is at least about 30% of the combined duration of both evaluations.

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Regarding claims 41 and 76, the respiration evaluation during the first and second ventilation states are effected for a combined duration of at most about two minutes (figs. 4 and 5).

Regarding claim 42, the first ventilation state comprises the patient rebreathing (col. 9, lines 44-53), wherein the "during phase disclosed by Kück may be either the first or the second ventilation state as claimed in claim 42.

Regarding claim 44, the first ventilation state comprises the patient breathing air (col. 9, lines 32-60), where Kück shows that any gas mixture breathed by the patient constitutes "air" (col. 8, lines 51-52).

Regarding claim 47, the step of evaluating respiration of the patient is effected before calculating pulmonary capillary blood flow or cardiac output of the patient (fig. 3; col. 10, lines 45-65).

Regarding claims 70-74, 76, 77, and 79, Kück discloses a first phase in which a change in the effective ventilation of a patient is induced, wherein this first phase is the time that the patient's respiration is evaluated in the "during" state of Kück, and a second phase during which a change in the effective ventilation of the patient is not present, wherein the time that the patient's respiration is evaluated in either the "before: or "after" state o Kück is this second phase (col. 9, lines 24-60). Figures 4 and 5 show these phases to have substantially the same duration according to the applicants' description of substantially the same duration on p.12, paragraph 0048 of the instant specification. Also, it is assumed that Kück, because the reference discloses a first phase in which a change in effective ventilation is induced (col. 2, lines 43-57) and a

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second phase during which a change in the ventilation is not present (col. 2, lines 40-43), discloses a differential Fick technique as claimed. If the inclusion of the claimed steps alone does not constitute a Fick technique as claimed by the present application, then the claim fails to include matter critical or essential to the practice of the invention (i.e. a problem under 35 U.S.C. 112, 1st paragraph).

With further regard to claim 77, the first phase comprises a rebreathing phase ("during" col. 9, lines 43-53) and the second phase comprises a non-rebreathing phase ("before" or "after" col. 9, lines 31-43 and lines 53-60).

With further regard to claim 79, the second phase occurs before the first phase (col. 9, lines 31-52).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 43 is rejected under 35 U.S.C. 103(a) as being obvious over Gama de Abreu et al., as applied to claims 34, 35, 37-42, 44, 45, 47, 70-74, 76, 77, and 79 above, and further in view of US Patent No. 6,540,689 to Orr et al. The applied reference to Orr et al. has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the

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reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Gama de Abreu et al. teaches determining cardiac output (col. 3, lines 1-6 of Gama de Abreu) and determining pulmonary capillary blood flow (col. 5, lines 6-7 of Gama de Abreu) but is silent as to the method for determining cardiac output and lacks employing a best-fit line method of rebreathing. However, Orr teaches a method of determining cardiac output or pulmonary capillary blood flow wherein a best-fit line method of rebreathing is employed as an evaluation of respiration of a patient during a second ventilation state (col. 8, line 26-col. 10, line 5 of Orr et al.) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention in order to accurately provide a pulmonary capillary blood flow or cardiac output value (col. 8, lines 63-66 of Orr et al.)

Claims 52-60, 63, 64, 84, 88-94, 110, and 112-115 are rejected under 35 U.S.C. 103(a) as being obvious over US Patent No. 6,200,271 to Kück et al. The applied reference has a common inventor and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). For applications filed on or after November 29, 1999, this rejection might also be overcome by showing that the subject matter of the reference and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person. See MPEP § 706.02(I)(1) and § 706.02(I)(2).

Kück is silent as to the duration of the "after" or the another first ventilation state (col. 9, lines 53-60). However, the applicants have not disclosed that a particular duration of this state, whether the duration be between about 18 and about 60 seconds, substantially the same as the first duration of time, at least about 30% of combined

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duration of the first and second durations of time, or about 30 seconds, solves any stated problem or is for any particular purpose. Moreover, it appears that the applicants' method would perform equally well with a duration sufficient to facilitate accurate determination of VCO_2 and $CACO_2$ as taught by Kück. Accordingly, the duration of the another first ventilation state is deemed to be a design consideration which fails to patentably distinguish over the prior art of Kück.

Regarding claims 53, 54, the evaluation of respiration during each of the first, second, and another first ventilation state is effected for substantially the same duration, according to the applicants description of "substantially a same duration" on p. 12, paragraph 0048 of the instant specification. Figures 4 and 5 of Kück show the duration of the evaluation during the "before" state as being roughly 50 seconds, during the "during" state as being roughly 60 seconds, and during the "after" state as being roughly 40 seconds. Note that the time limitation in this case, and in claims 55-60 and 112, differs from the limitation in claims 52 and 110, where the time duration refers to the duration of the first, second, or another ventilation state itself, rather than to the length of time during which the patient is evaluated.

Regarding claims 55-57, the evaluation of respiration during each of the first, second, and another first ventilation states is effected for about 30 seconds, wherein the values of 40, 50, and 60 seconds are each "about 30 seconds", particularly in reference to, for example, the duration of a day.

Regarding claims 58 and 59, the duration of the evaluation of respiration of each of the first and second ventilation states is effected for at least about 30% of a combined

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duration of the first and second ventilation states (figs. 4 and 5), where 50 seconds and 60 seconds each constitute at least 30% of a combined duration of 50 seconds with 60 seconds.

Regarding claim 60, the evaluation of respiration of the patient during the first and second ventilation states are effected for a combined duration of at most 2 minutes (figs. 4 and 5).

Regarding claim 63, the first ventilation state comprises the patient breathing air (col. 9, lines 32-60), where Kück shows that any gas mixture breathed by the patient constitutes "air" (col. 8, lines 51-52).

Regarding claim 93, the step of inducing comprises causing the individual to rebreathe (col. 9, lines 44-52).

Regarding claim 94, the measurements obtained are measurements of carbon dioxide in respiration of the individual (col. 9, lines 27-30; col. 9, line 61-col. 10, line 9).

Regarding claims 110, 112 figures 4 and 5 show the removal of the change in effective ventilation being effected immediately following the first period of time and the disclosure of Kück fails to show otherwise.

With further regard to claim 112, the evaluating respiration of the patient during the first phase and evaluating respiration of the patient following removal of the change in effective ventilation are effected for substantially the same duration of time (figs 4 and 5).

With further regard to claims 113 and 114, evaluating respiration during the first phase and following removal of the change comprises measuring at least one

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respiratory gas and respiratory flow of the patient (col. 9, line 61-col. 10, line 1). With further regard to claim 114, the respiratory gas measured is the respiratory carbon dioxide of the patient.

With further regard to claim 115, the first phase comprises evaluating respiration during rebreathing (col. 9, lines 43-52).

Claim 75 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kück in view of Orr et al. Kück lacks repeating the first and second phases in immediate sequence with each other. However, Orr teaches repeating a number of rebreathing cycles, where a "before" state, a "during state" and an "after" state constitute a rebreathing cycle (col. 7, lines 56-60; col. 8, lines 2-5 of Orr et al.) Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to combine the method of Orr et al. with that of Kück, in order to continually update or monitor the pulmonary capillary blood flow or cardiac output of a patient (col. 8, lines 5-9 of Orr et al.)

Response to Arguments

Applicant's arguments filed 6/8/04 have been fully considered but they are not persuasive.

In response to the applicants' assertion that the claims of the instant application have been "mischaracterized as including 'steps'" (p. 15 of the applicants' amendment and remarks filed 6/8/04), the applicants should note that the US Patent and Trademark Office recognizes method claims as comprising method steps. The use of the term "step" in reference to the claim elements fails to unduly limit the scope of the claims.

The applicants argue that Kück lacks any express or inherent description of a method which includes evaluating respiration during first and second ventilation states or phases that each last for about 18 to about 60 seconds. However, figures 4 and 5 of Kück show first and second ventilation states or phases that each last for a duration of between about 18 to 60 seconds.

The applicants also contend that Kück fails to expressly or inherently describe repeating evaluating respiration of a patient during another first ventilation state immediately following evaluating respiration of the patient during a second ventilation state. However, "Immediate" means "without delay", and figures 4 and 5 of Kück show that the evaluations are continuous, thus having no intervening delay. Kück fails to state the contrary.

The applicants assert that Kück lacks any express or inherent description of evaluating respiration during a first ventilation state that lasts for at least about 30% of a combined duration of the first ventilation state and a second ventilation state nor does Kück describe that the first and second ventilation states may be effected for substantially a same duration. Again, figures 4 and 5 show such durations of the first and second ventilation state. According to the graphs in figures 4 and 5, the "before" ventilation state has a duration of about 50 seconds and the "during" ventilation state has a duration of about 60 seconds. A 50 second duration is at least 30% of a duration of 50 seconds combined with 60 seconds. According to the applicants' description of "substantially a same duration" on p. 12, paragraph 0048 of the instant specification, these values also constitute substantially a same duration.

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The applicants further state that Kück includes no express or inherent description of evaluating respiration of a patient during a second ventilation state in which the patient breathes gas or a gas mixture comprising at least a concentration of oxygen present in air. Kück does disclose a second ventilation state in which the patient breathes gas (col. 9, lines 31-34) as claimed in claims 45 and 64.

Applicant's arguments with respect to the reference Mault have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

Claims 100-109 are allowed. Claims 46, 48-51, 61, 62, 65-69, 78, 80-83, 85-87, 95-99, 111, and 116-120 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The allowability of claims 46, 48-51, 61, 62, 78, 80-83, 85-87, 95-109, 111, and 116-120 were addressed in the previous Office action, filed 3/4/04.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US Patent No. 6,342,039 to Lynn et al.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia C. Mallari whose telephone number is (703) 605-0422. The examiner can normally be reached on Monday-Friday 10:00 am-6:30 pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (703) 308-3130. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Patricia Mallari
Patent Examiner
Art Unit 3736


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